REMARKS

In response to the above-identified Office Action, Applicant seeks reconsideration of the application. In this response, no claims have been canceled, no claims have been added, and no claims have been amended. Accordingly, Claims 1-27 are pending.

I. Claims Rejected Under 35 U.S.C. § 102(b)

Claims 1-27 are rejected under 35 U.S.C. § 102(b) as being unpatentable by U.S. Patent No. 5,719,800 issued to Mittal et al. (Mittal). Applicant respectfully traverses this rejection.

It is axiomatic that to anticipate a claim, each element of the claim must be disclosed in a single reference. Among other limitations, independent Claims 1, 8, 15 and 19 recite estimating the amount of power used by the microprocessor based on information provided by at least one counter. Applicant has reviewed the cited sections of Mittal that the Examiner indicates teach this limitation, including the Abstract. Applicant has been unable to discern any part of the cited sections of Mittal that teach estimating an amount of power used by a microprocessor based on information provided by a counter. Figure 2 of Mittal shows floating-point unit 206 that enters into a reduced power mode based signal from counter 205. However, in Mittal, information from the counter 205 is not used to estimate an amount of power used by a microprocessor. Instead, in Mittal, the signal from the counter 205 directly controls whether or not the floating point unit 206 is operated in a reduced power mode without computing or estimating an amount of power used by a microprocessor. Similarly, the Abstract of Mittal also does not teach estimating an amount of power used by a microprocessor based on information provided by a counter. Rather, the Abstract of Mittal merely indicates that if an activity level of a particular function unit is greater than a threshold, then the functional unit is operated in a reduced-power mode. Accordingly, in Mittal, the activity level is used to directly control whether or not the functional unit is operated in a reduced-power mode without computing or estimating an amount of power used by a microprocessor. Since neither the Abstract nor figure 2 of Mittal teach estimating an amount of power used by a microprocessor based on information provided by a counter, the Examiner has failed to establish that Mittal teaches estimating the amount of power used by the microprocessor based on information provided by at least one counter, as recited in Applicant's independent claims.

Further, the Examiner has failed to establish that Mittal teaches controlling a throttling mechanism incorporated in the microprocessor based on estimated power usage, as recited in independent Claims 1, 8, 15 and 19. As noted about, figure 2 of Mittal teaches controlling whether or not the floating point unit 206 operates in a reduced power mode based on signal 204 from a counter 205 without computing or estimating an amount of power used by a microprocessor. Accordingly, figure 2 of Mittal fails to teach controlling a throttling mechanism based on estimated power usage. The Abstract of Mittal also does not teach this limitation. Instead, the Abstract of Mittal teaches controlling whether or not a functional unit operates in a reduced power mode by comparing an activity level with a threshold. There is nothing in the Abstract of Mittal that teaches estimating an amount of power used by a microprocessor and controlling a throttling mechanism incorporated in the microprocessor based on estimated power usage. Thus, the Examiner has failed to establish that Mittal teaches each element of independent Claims 1, 8, 15 and 19. Therefore, independent Claims 1, 8, 15 and 19 are not anticipated by Mittal. Accordingly, reconsideration and withdrawal of the anticipation rejection of independent Claims 1, 8, 15 and 19 are requested.

In regard to Claims 2-7, 9-14, 16-19, and 20-27, these claims depend from independent Claims 1, 8, 15 and 19 and incorporate the limitations thereof. Thus, at least for the reasons mentioned in regard to independent Claims 1, 8, 15 and 19, these claims are not anticipated by Mittal. Accordingly, reconsideration and withdrawal of the anticipation rejection of Claims 2-7, 9-14, 16-19, and 20-27 are requested.

Furthermore, with respect to dependent Claims 3 and 16, these claims recite estimating power usage based on (1) the count value associated with said at least one activity, (2) current clock frequency and (3) operating voltage level of the microprocessor. In rejecting these claims, the Examiner asserts that this limitation is taught by Mittal, citing column 1, lines 36-50 of Mittal. Applicant has been unable to discern any part of the cited sections of Mittal that teach estimating power usage based on (1) the count value associated with at least one activity, (2) current clock frequency and (3) operating voltage level of the microprocessor. Column 1, lines 36-50 of Mittal indicates that the power consumed by an integrated circuit is proportional to its clock rate and its operating voltage. However, there is nothing in Mittal that teaches a microprocessor that estimates its own power usage based on its clock rate and its operating voltage. Thus, the Examiner has failed to establish that Mittal teaches estimating power usage of

a microprocessor based on (1) the count value associated with at least one activity, (2) current clock frequency and (3) operating voltage level of the microprocessor, as recited in Claims 3 and 16.

As to dependent Claims 10 and 21, these claims recite estimating the amount of power used by the microprocessor by adjusting the number of occurrences of at least one activity according to current operating frequency and voltage level of the microprocessor. As described in the original specification, in one embodiment, the amount of power consumed by a microprocessor may be more accurately estimated by adjusting the counter data according to current clock frequency and voltage level. Column 1, lines 36-50 of Mittal indicates that the power consumed by an integrated circuit is proportional to its clock rate and its operating voltage. However, there is nothing in Mittal that teaches estimating the amount of power used by the microprocessor by adjusting the number of occurrences of at least one activity according to current operating frequency and voltage level of the microprocessor, as recited in Claims 10 and 21. Thus, Mittal fails to disclose every limitations of Claims 10 and 21.

CONCLUSION

In view of the foregoing, it is believed that all claims now pending patentably define the subject invention over the prior art of record and are in condition for allowance, and such action is earnestly solicited at the earliest possible date. If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies, to charge payment or credit any overpayment to Deposit Account No. 02-2666 for any additional fees required under 37 C.F.R. §§ 1.16 or 1.17, particularly, extension of time fees. If a telephone interview would expedite the prosecution of this Application, the Examiner is invited to contact the undersigned at (310) 207-3800.

Respectfully submitted,

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CERTIFICATE OF MAILING:
I hereby certify that this correspondence is being deposited with the United States Postal Service as first class mail , with sufficient postage, in an envelope addressed to: Mail Stop Amendment, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450 on May 27, 2004

Marilyn Bass May 27, 2004